What is claimed is:

1. A method of recording data to an optical disk having a plurality of recording layers in which information can be recorded optically, wherein

the optical disk has a first recording layer and a second recording layer disposed at a farther position from a light source than the first recording layer,

the method comprises defining a radius of the outermost circumference of a data recordable range in the second recording layer to be equal to or less than a radius of the outermost circumference of an area in which data is recorded in the first recording layer, when recording data in the second recording layer.

2. The recording method according to claim 1, wherein the position of the optical head at the end of data recording in the first recording layer is the recording start position in the second recording layer.

3. The recording method according to claim 1, wherein the data is recorded in the optical disk in predetermined block units, and when the unrecorded area of the first recording layer becomes less than the size of one block during data recording operation in the first recording layer, the data recording layer is changed over to the second recording layer without recording in the unrecorded area.

4. The recording method according to claim 3, wherein a radius of

the outermost circumference of the recordable range in the second recording layer is defined to be smaller than the radius of the outermost circumference of the data recorded area in the first recording layer by a predetermined distance.

5. The recording method according to claim 1, wherein a radius of the innermost circumference of the data recordable range in the second recording layer is defined to be equal to or larger than the radius of the innermost circumference of the data recorded area in the first recording layer.

6. The recording method according to claim 1, wherein a radius of the innermost circumference of the recordable range in the second recording layer is defined to be larger than the radius of the innermost circumference of the data recorded area in the first recording layer by a predetermined distance.

7. A method of recording data to an optical disk having a plurality of recording layers in which information can be recorded optically, wherein

the optical disk has a first recording layer, and a second recording layer disposed at a farther position from a light source than the first recording layer,

the optical disk has tracks divided into plural sectors, and each sector includes a buffer area at the end portion, and

the method comprises recording predetermined dummy data to the buffer area.

8. The recording method according to claim 7, wherein the sector

further includes an address area having a sector identification signal, a user data area disposed before the buffer area for storing data, and a gap area disposed between the address area and the user data area.

9. The recording method according to claim 8, wherein the dummy data is recorded in all areas of the gap area and buffer area.

10. The recording method according to claim 8, wherein the dummy data is recorded in part of the gap area and buffer area.

11. The recording method according to claim 8, wherein, in the gap area or buffer area, the dummy data is not recorded to an area near the boundary of the address area and the gap area or buffer area.

12. The recording method according to claim 8, wherein the dummy data is equal to a synchronizing signal to be recorded at the beginning or end of the user data area.

13. The recording method according to claim 7, wherein in the sector the user data area for recording data is disposed before the buffer area, and in the buffer area, the dummy data is recorded at the end of the user data area with a predetermined distance apart from the data recorded, and when the data is recorded in a predetermined modulation rule, the predetermined distance is not larger than two times of the maximum mark length determined by the modulation rule.

14. The recording method according to claim 13, wherein the predetermined distance is not less than the minimum mark length determined by the modulation rule.

15. An apparatus of recording data to an optical disk having a plurality of recording layers in which information can be recorded optically,

the optical disk having a first recording layer, and a second recording layer disposed at a farther position from a light source than the first recording layer,

the apparatus comprising an optical head that emits a laser beam to the optical disk to record information, a driving controller that drives the optical head, and a controller for controlling the driving controller,

wherein, when recording data in the second recording layer, the controller conducts a control so that a radius of the outermost circumference of a data recordable range in the second recording layer is equal to or less than a radius of the outermost circumference of an area in which data is recorded in the first recording layer.

16. The recording apparatus according to claim 15, wherein the data is recorded in the optical disk in predetermined block units, and when the unrecorded area of the first recording layer becomes less than the size of one block during data recording operation in the first recording layer, the data recording layer is changed over to the second recording layer without recording in the unrecorded area.

17. The recording apparatus according to claim 16, wherein a radius of the outermost circumference of the recordable range in the second recording layer is defined to be smaller than the radius of the outermost circumference of the data recorded area in the first recording layer by a predetermined distance.

18. The recording apparatus according to claim 15, wherein a radius of the innermost circumference of the data recordable range in the second recording layer is defined to be equal to or larger than the radius of the innermost circumference of the data recorded area in the first recording layer.

19. The recording apparatus according to claim 15, wherein a radius of the innermost circumference of the recordable range in the second recording layer is defined to be larger than the radius of the innermost circumference of the data recorded area in the first recording layer by a predetermined distance.

20. An apparatus of recording data to an optical disk having a plurality of recording layers in which information can be recorded optically,

the optical disk having a first recording layer, and a second recording layer disposed at a farther position from a light source than the first recording layer, the optical disk having tracks divided into plural sectors, each sector including a buffer area at the end portion,

the apparatus comprising an optical head that emits a laser beam to the optical disk to record information, a driving controller that drives the optical head, and a controller for controlling the driving controller,

wherein the controller conducts the control so that predetermined dummy data is recorded to the buffer area.

21. The recording apparatus according to claim 20, wherein the sector further includes an address area having a sector identification signal, a user data area disposed before the buffer area for storing data, and a gap area disposed between the address area and the user data area.